

MOSQUITOES

VECTOR CONTROL Bulletin 3

Mosquito bites are only regarded as irritants in Hawai'i, but elsewhere, they are the cause of serious diseases and deaths. Diseases transmitted by infected bites of mosquitoes are encephalitis, yellow fever, dengue, malaria, and filariasis. Although Hawai'i has none of these human diseases at present, our dogs acquire heartworms from infected mosquito bites, and native birds often die from bird malaria and bird pox in lowlands where infected mosquitoes are prevalent.

Mosquitoes in Hawai'i

The five pest species of mosquitoes can be divided into two types based on their biting habits:

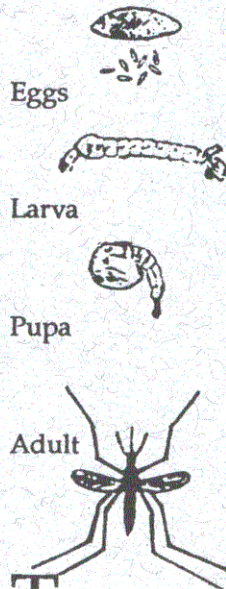
Day-biting Mosquitoes

The three species, *Aedes albopictus*, *Aedes aegypti*, and *Wyeomyia mitchellii*, are active only during daylight. Because of a short migratory range of only 100-150 yards, their presence at your home usually indicates a nearby breeding source. Day-biting mosquitoes breed in relatively clean water found in tree holes, plants, rock holes, and all types of man-made containers. They do not breed in ground pools or in water that contains soil. *Wyeomyia mitchellii* breeds almost exclusively in leaf axils of bromeliads (pineapple lilies). *Aedes albopictus* and *Aedes aegypti* are black mosquitoes with white markings. *Wyeomyia mitchellii* is brown with an abdomen that is white on the lower half. *Aedes albopictus* is the most common day-biting mosquito. *Aedes aegypti* is found only on Hawai'i and Moloka'i.

Night-biting Mosquitoes

The two species, *Culex quinquefasciatus* and *Aedes vexans* are active only at night. Their presence at your home may not indicate a nearby breeding site. They have a migratory range of several miles. *Culex quinquefasciatus* will breed in all types of human-made containers but prefers ground water containing rotting organic matter. *Aedes vexans* breeds exclusively in flood waters. Its eggs, laid in dry, lowland soil, remain dormant until flooding causes them to hatch. Both *Culex quinquefasciatus* and *Aedes vexans* are brown mosquitoes, but only *Aedes vexans* has white stripes around its leg joints. *Culex quinquefasciatus* is found on all islands and is the most common night-biting mosquito in Hawai'i.

Life Cycle



The immature life stages of all mosquitoes occur in water; only the adult mosquito lives out of water. Eggs are laid singly or in clusters; those laid on water hatch in 1-2 days, while eggs laid out of water remain dormant for weeks or months until covered with water. Development stages from egg to adult takes 8-10 days or more depending on food quality and water temperature. Adult mosquitoes live for one or two months.

Control Methods

Find Breeding Sites.

Intolerable mosquito nuisance usually indicates a nearby breeding source. Make a systematic and thorough inspection around your home. Common breeding sites are in water found in vine bowls, clogged roof gutters, cans, bottles, unused swimming pools, unused fish ponds, pineapple lilies, spider lilies, hollow bamboo stumps, hollow traveller's tree stumps, uncapped hollow tile walls, uncapped fence pipes, and overflow trays under house plants.

Permanent Control

- 1 Remove, repair, or empty everything that could breed mosquitoes on your premises.
- 2 Use mosquito-eating fish, such as guppies, in fish ponds, unused swimming pools, or other large containers that cannot be removed or emptied.
- 3 Install or repair window screens and doors to keep out mosquitoes. Screens are your best protection against mosquito nuisance in your home.

Temporary Control

- 1 Eliminate adult mosquitoes with aerosol insecticides labeled for flying insects.
- 2 Use insecticides specifically labeled for controlling mosquito larvae in breeding sites that cannot be emptied or removed. Consult your garden shop or a chemical company for available insecticides.

CAUTION: Certain pesticides and their solvents may cause respiratory irritation. Persons with respiratory diseases should consult their physicians before using any pesticide.
IT IS A VIOLATION OF FEDERAL LAW IF PESTICIDES ARE NOT APPLIED EXACTLY AS THE LABEL DIRECTS.

VECTOR CONTROL BRANCH

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